

MONTHLY TEST

Q. ID: ITISKILL6833HE

February 2026

GOVT. ITI.AMMASANDRA,

Question Paper

Duration: 60 Mins

Total Marks: 25

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Student Name: _____ Roll No: _____

1. What is the tensile stress if a square rod of 10 mm side is tested for a tensile load of 1000 kg?

- A) 1 kg/mm^2 B) 1000 kg/mm^2
C) 100 kg/mm^2 D) 10 kg/mm^2

2. What is the ratio of change in length to original length?

- A) Lateral strain B) Poisson's ratio
C) Linear strain D) Volumetric strain

3. What is the ratio between stress and strain?

- A) Poisson's ratio B) Factor of safety
C) Yield point D) Young's Modulus

4. Which symbol is used to express change in length?

- A) L B) Δl
C) l D) e

5. What is the maximum percentage of stretch of its original length is allowable for elastic materials?

- A) 100% B) 300%
C) 200% D) 400%

6. What is the term used for maximum stress attained by a material before rupture?

- A) Compressive stress B) Working stress
C) Ultimate stress D) Tensile stress

7. Which is elastic material?

- A) Polycarbonates B) Polystyrenes
C) Celluloid D) Nylon

8. What is the ratio between ultimate stress to working stress?

- A) Young's modulus B) Bulk modulus
C) Factor of safety D) Modulus of rigidity

9. Which one is the ratio of stress?

- A) Load and area B) Load and direction
C) Load and diameter D) Load and time

10. What is the formula for bulk modulus?

- A) Shear stress/Shear strain B) Compressive stress/Compressive strain
C) Tensile stress/Tensile strain D) Volumetric stress/Volumetric strain

11. What force will be required to punch a hole of 10 mm dia in a 1 mm thick plate, if the allowable shear stress is 50 N/mm^2 ? ($\pi = 22/7$)

- A) 1575 N B) 1571.4 N
C) 1757 N D) 1577 N

12. What is the young's modulus if a wire of 2m long, 0.8 mm^2 in cross section increases its length by 1.6 mm on suspension of 8 kg weight from it?

- A) 1.25 kg/mm^2 B) 125 kg/mm^2
C) 12500 kg/mm^2 D) 12.5 kg/mm^2

13. How much strain is developed in an iron rod of 1 metre length gets elongated by 1 cm, if a force of 100 kg is applied at one end?

- A) 0.0001 B) 0.01
C) 0.1 D) 0.001

14. What is the safe stress if the ultimate stress of a material is 35 kg/mm^2 and factor of safety is 5?

- A) 0.143 B) 0.7
C) 1.43 D) 7

15. Which force acts on crank shaft?

- A) Torsional stress B) Compressive stress
C) Shear stress D) Tensile stress

16. Which force acts on rivets?

- A) Compressive force B) Shear force
C) Bending force D) Tensile force

17. What is the tensile strain if a force of 3.2 KN is applied to a bar of original length 2800 mm extends the bar by 0.5 mm?

- A) 0.0001786 B) 0.0001687
C) 0.0001968 D) 0.0001867

18. What is the ratio of shear stress to shear strain?

- A) Yield point
- B) Modulus of rigidity
- C) Bulk modulus
- D) Modulus of elasticity

19. What is the ratio between lateral strain and longitudinal strain?

- A) Bulk modulus
- B) Poisson's ratio
- C) Hooks law
- D) Young's modulus

20. What is the ratio of ultimate load to area of original cross section?

- A) Yield point
- B) Ultimate stress
- C) Youngs modulus
- D) Factor of safety

21. Which is thermosetting plastic?

- A) Vinyl polymers
- B) Melamine resins
- C) Polystyrenes
- D) Celluloid

22. Which law states that within elastic limit stress is directly proportional to strain?

- A) Newtons law
- B) Charles law
- C) Joules law
- D) Hooks law

23. What is the unit of strain?

- A) Kg/cm^2
- B) Metre
- C) Newton/metre^2
- D) No unit

24. Which is thermo plastic material?

- A) Butyl rubber
- B) Neoprene
- C) Nylon
- D) Vinyl polymers

25. What is the ratio between the change in dimension to its original dimension of the substance?

- A) Stress
 - B) Factor of safety
 - C) Poisson's ratio
 - D) Strain
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